

Northwest Atlantic



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A Compilation of Research Vessel Surveys on a Stock-by-Stock Basis

by

NAFO Secretariat

Discussions at the Scientific Council Meeting in June 1990 resulted in the compilation of information on research vessel surveys on a stock-by-stock basis (SCS Doc. 90/22, Serial No. N1820). This inventory was judged to be very helpful for the establishment of future inventories. It was agreed that the Designated Experts for the stocks be responsible for future compilations. The tabulations prepared at the June 1991 meeting were presented in SCS Doc. 91/18. In 1992, it was concluded (NAFO Sci. Coun. Rep., 1991, p. 114) that Designated Experts should update the information annually for review by STACFIS. The tabulations prepared at the June 1992, June 1993, June 1994, June 1995 and June 1996 Meetings were presented in SCS Doc. 92/22, 93/18, 94/18, 95/17, 96/15 and 97/13, respectively. The following tabulations were completed at the June 1998 Meeting of the Scientific Council, for stocks addressed at that meeting, and the balance (i.e. for the northern shrimp stocks) at the September and November Meetings of the Scientific Council.

Stock name: Cod in Divisions 3NO																
Name of survey	Location (Div.)	Season month(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Indiv- idual weights	Country	SCR Doc. No.
										abun- dance	bio- mass	ALK	LF			
Groundfish	3NO	Apr, May	1972-97 (except 1983)	Stratified- random Bottom trawl	Groundfish	160	Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	98/65
Juvenile flatfish	3NO	Sep	1989-94	Stratified- random Bottom trawl	Groundfish		Y	100	30-150	Y	Y	Y	Y	Y	Canada	96/80
Groundfish	3NO	Oct, Nov	1990-97	Stratified- random Bottom trawl	Groundfish	160	Y	100	30-400 fm	Y	Y	Y	Y	Y	Canada	98/65
EU-Spain	3NO Reg. Area	May	1995-98	Stratified- random & Lofoten	Groundfish	112	N	20	100 m	Y	Y	N	Y	N	Spain	98/48

Stock name: Cod in Division 3M

Name of survey	Location (Div.)	Season month(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
EU- bottom trawl	3M	Jul	1988-97	Stratified random bottom trawl	all	117	N	100%	127-730m	Y	Y	Y	Y	EU	98/30
Russian trawl	3M	May	1983-96 (1994 missing)	Stratified random bottom trawl (and acoustic survey 1987-93)	all	58	Y	100%	127-730m	Y	Y	Y	N	Russia	97/7
Canadian groundfish	3M	Sep/Oct	1996	Stratified random bottom trawl	all	68	Y	100%	127-730m	Y	Y	N	N	Canada Newfoundland	97/42

Stock name: Redfish in Divisions 3LN

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Individual weights	Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF			
USSR groundfish	3L, 3N	Apr-Jul (mostly)	1972-82	Fixed station Bottom trawl	Multi-species Groundfish	50-60 per Div.	Y	Unknown	1972-76: to 367m 1977-82: to 732 m	Y	Y	Y	Y	Some-times	USSR	86/66
USSR groundfish	3L, 3N	Apr-Jun (mostly)	1983-91, 1993, 1994	Stratified-random Bottom trawl	Multi-species Groundfish	approx. 48-3L	Y	Unknown	to 732 m	Y	Y	Y	Y	Some-times	USSR	86/66
USSR acoustic	3LN	Apr-Jun	1987-91, 1993	Acoustic	Multi-species Groundfish	unknown midwater sampler.	Y	Unknown	to 732 m	Y	Y	Y	Y	Some-times	USSR	88/24
Canadian groundfish (covering deep-water strata)	3L	various	1978-86	Stratified-random Bottom Trawl	Multi-species Groundfish	min. of 40 in depths >183m	Y	Unknown	to 732 m	Y	Y	Y	Y	Some-times	Canada	NAFO Studies No. 2
Canada redfish	3L	Jan	1990	Stratified-random Bottom trawl	Redfish	55	Y	Unknown	183-732 m	Y	Y	Y	Y	N	Canada	NAFO Studies No. 2
Canada groundfish	3LN	Apr-Jun	1990-93	Stratified-random Bottom trawl	Multi-species Groundfish	90 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	Y	Canada	NAFO Studies No. 2
Canada redfish	3L, 3N (since 1990)	Aug	1990-91, 1993	Stratified-random Bottom trawl	Redfish	59-3L 47-3N	Y	Unknown	183-732 m	Y	Y	Y	Y	Y	Canada	NAFO Studies No. 2
Canada groundfish	3L	Oct-Dec + Apr-May	1990-98	Stratified-random Bottom trawl	Multi-species Groundfish	128 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	N	Canada	NAFO Studies No. 2
Canada groundfish	3N	Oct-Dec + Apr-May	1991-98	Stratified-random Bottom trawl	Multi-species Groundfish	30 in redfish depths	Y	Unknown	to 732 m	Y	Y	Y	Y	Y	Canada	NAFO Studies No. 2

Stock name: Redfish in Division 3M

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates	Indiv- idual weights	Country	SCR Doc. No.
EU bottom Trawl	3M	Jul	1988-1997	Stratified random bottom trawl	All	117	N	100	127-730m	abun- dance Y bio- mass Y ALK Y LF Y	Y	EU	98/30

Stock name: American plaice in Division 3LNO

Name of survey	Location (Div.)	Season Month(s)	Years of Survey from, to or since	Type of survey and gears	Target Species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth Range	abundance	bio-mass	ALK	LF	Indiv-idual weights	Country	SCR Doc. No.
Canadian spring	3LNO	Apr-Jun	1971-98	Stratified random Campelen	Groundfish	310	Y	95	to 730 m	Y	Y	Y	Y	Y	Canada	SCR 98/69
Canadian autumn	3LNO	Sep-Dec	1990-97	Stratified random Campelen	Groundfish Shellfish	386	Y	100	to 1 460 m	Y	Y	Y	Y	Y	Canada	SCR 98/69
EU-Spain	3NO Reg. Area	Apr-May	1995-98	Stratified random Lofoten	Groundfish	124	N	10	to 1 460 m	Y	Y	N	Y	N	Spain	SCR 98/48
Canadian DFO-Industry Co-operative	3NO	Quarterly in 1997-98	1996-98	Grid survey with commercial Engel trawl (unlined)	Yellowtail (by-catches of cod, A. plaice)	50-80 sets per survey (285 total in 1997)	Y	20	45-90 m	N	N	N	N	N	Canada	SCR 98/73

Stock name: American plaice in Division 3M

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Country	SCR Doc. No.	
										abundance	bio-mass	ALK	LF	Indiv-idual weights		
EU - bottom trawl	3M	Summer Jul-Aug	1988	Stratified random bottom trawl	Groundfish and shrimp	1	N	100	127-731 m	Y	Y	Y	Y	Y	EU-Spain EU-Portugal	98/30

Stock name: Witch flounder in Divisions 3NO

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
Spring, groundfish	3NO	Apr-Jun	since 1971	Stratified-random Bottom trawl	Groundfish Cod Flounder		Y	90	30-400* ftm	Y	Y ^a	Y	Y	Canada	98/49
Autumn, groundfish	3NO	Nov	since 1990	Stratified-random Bottom trawl	Groundfish Cod Flounder		Y	90	30-400 ftm.	Y	Y ^a	Y	Y	Canada	"
EU-Spain	Reg. Area 3NO	May	1995-98	Stratified-random Bottom trawl	All	77	N	25	30-400 ftm.	Y	N	Y	N	EU-Spain	98/48

* Prior to 1991 the depth range covered was 30-200 ftm.

^a No ages read since 1993.

Stock name: Yellowtail flounder in Divisions 3L, 3N and 3O

Name of survey	Location (Div.)	Season month(s)	Years of survey from, to or since	Type of survey and gears	Target Species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
Canadian Groundfish (Spring)	Div. 3LNO	Spring (Apr-Jun)	1971-97	Stratified random - bottom trawl	Groundfish	310	Y	100	51 to 941m	Y	Y	Y	Y	Canada	98/72
Canadian Groundfish (Autumn)	Div. 3LNO	Autumn (Oct-Nov)	1990-97	Stratified-random - bottom trawl	Groundfish	386	Y	100	51 to 1437m	Y	Y	Y	Y	Canada	98/72
Spanish Groundfish (Spring)	Div. 3NO Regulatory Area	Spring (Apr-May)	1995-98	Stratified-random - bottom trawl	Groundfish	124	N	unknown	45 to 1280m	Y	Y	Y	N	Spain	98/48
Canadian DFO/Industry	Div. 3NO	Winter 1997 Spring 1997 Summer 1997 Autumn 1997	1996-97	Grid survey with fixed stations	Yellowtail	285	Y	80	45-90m	N	N	N	Y	Canada	98/73

Stock name: Short-finned Squid in Subarcas 3 and 4

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates			Individual weights	Country	SCR Doc. No
										abundance	bio-mass	ALK	LF		
July bottom trawl	SA 4	July	From 1970	Stratified random bottom trawl	Multi-species		Y	?	? unknown	Y	Y	N	Y	Canada	98/59

Stock name: Squid in Subareas 5 and 6

Name of survey	Location (Div.)	Season month(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates	Individual weights	Country	SCR Doc. No
Autumn 5+6 Bottom Trawl	SA 5+6	Sep-Dec	From 1967	Stratified random bottom trawl	Multi-species		Y	?	? unknown	abundance Y bio-mass Y ALK N LF Y	Y	USA	98/59

Stock name: Roundnose Grenadier in Subareas 2 and 3

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Indiv- idual weights	Country	SCR Doc. No.
										abun- dance	bio- mass	ALK	LF			
Canadian Deep-water	SA2+3KL M	Aug/Sep	1991	OTB - Engel	Mixed	228	Y	?	750-1500m	Y	Y	N	3KLM only	Y	Canada	
Canadian Deep-water	3KL MN	Feb	1994	OTB - Engel	Mixed	133	Y	?	750-1500m	Y	Y	N	N	Y	Canada	
Canadian Deep-water	3KL MN	Apr	1995	OTB - Engel	Mixed	100+	Y	?	500-1500m	Y	Y	N	N	Y	Canada	
Canadian groundfish	2GHJ-3KL MN O	Sep-Dec	1996-1997	OTB- Campelen	Mixed	100+ (in depths >400 m)	Y	?	30-1500m	Y	Y	N	N	Y	Canada	98/57
Japan bottom trawl	2GH	Aug	1996-1997	Bottom trawl	Mixed	151	Y	?	201-1500m	N	Y	N	N	Y	Japan	

Stock name: Greenland halibut in Subarea 0 and Divisions 1B-F

Name of survey	Location (Div.)	Season month(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Country	SCR Doc. No
										abundance	bio-mass	ALK	LF		
Greenland Shrimp Trawl	1A-1F	Jul-Sep	1988-1997	Stratified Random bottom Trawl	Shrimp Groundfish	278	N	?	0-600m	Y	Y	Y	Y	Greenland	98/40
Greenland Deep Sea	1CD	Sep-Oct	1997	Stratified Random bottom Trawl	Greenland halibut Roundnose grenadier	63	N	?	400-1500m	Y	Y	Y	Y	Greenland	98/25

Stock name: Greenland halibut in Division 1A

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Country	SCR Doc. No.	
										abundance	bio-mass	ALK	LF			
Inshore longline	Disko Bay Uummannaq Upernavik (2 a year)	Jul- Aug	since 1993	Fixed sation longlines	Greenland halibut	30 in each location (60 a year)	Yes	?	200-900m	N	N	Y	Y	Y	Greenland	98/44

Stock name: Greenland halibut in Subareas 2+3

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF		
Canadian autumn groundfish	2J3K, 3L	Oct-Dec	78-97 2J3K 81-97 3L	Stratified-random Engel trawl 1978-94 2J3K Yankee trawl 1981-82 3L Engel trawl 1984-94 3L Campelen Trawl all areas 1995-96	Groundfish (Cod, flounders, G. halibut, Redfish & shellfish)	497 in 1997	Y	This column not appropriate for this species given differences in depth coverage and areas covered in the surveys.	2J3K in 1997 123-1488 m 3L in 1997 35-1436 m	Y	Y	Y	Y	Canada	98/47
Canadian spring groundfish	3LNO	Apr-Jun	1971-97	Yankee 71-82 Engel 84-95 Campelen 96- All surveys stratified random	Groundfish	310 in 1997	Y		to 731 m recently	Y	Y	Y	Y	Canada	-
EU bottom trawl	3M	Jul	1988-97	Stratified-random Bottom trawl	Groundfish & shrimp	117	N		to 366 in most years	N	Y	Y	Y	EU	98/30
EU-Spain bottom trawl	Reg. Area 3NO	Apr-May	1995-97	Stratified-random Bottom trawl	Groundfish	124	N		to 731 m	Y	N	Y	Y	Spain	98/48
Japan groundfish	2GH	August	1996 only	Stratified-random Bottom trawl	Groundfish	134	Y		about 1300 m	Y	Y	Y	Y	Japan	97/25
Canadian groundfish	2GH	Sep-Oct	occasion since 1978	Stratified-random Campelen in 1996-97	Groundfish & shellfish	140	Y		201-1382 m	Y	Y	Y	Y	Canada	98/47
Canadian groundfish	3MNO	Sep-Dec	3NO 1990-97 *3M 1996-97	Stratified-random Campelen	Groundfish	26 3M 100 3N 81 3O	Y	3M * 1997 only in deepwater Sackville Spur, Flem. Pass	1379 m 3M 769 m 3N 611 m 3O	Y	Y	Y	Y	Canada	98/47
Russian	3M	May	1987-96	Stratified-random Bottom trawl	Groundfish	76	Y		914 m in 1996 914 m	Y	Y	Y	Y	Russia	98/13
	3LM Fl. Pass	Feb	1995-96	Stratified-random Bottom trawl	Groundfish		Y			Y	Y	Y	Y		

Stock name: Roundnose Grenadier in Subareas 0+1

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Individual weights	Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF			
Joint Japan* Greenland	IA - 1D	Aug	1987-1995	Stratified random bottom trawl	Greenland halibut, Roundnose grenadier	91	N	?	400-1500m	N	Y	N	Y	N	Japan/ Greenland	96/29
Greenland Deep Sea	1CD	Sep-Oct	1997	Stratified Random Bottom Trawl	Greenland halibut, Roundnose grenadier	63	N	?	400-1500m	Y	Y	N	Y	N	Greenland	98/25

* No survey in 1996.

Stock name: Redfish in Subarea I

Name of survey	Location (Div.)	Season month(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Individual weights	Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF			
West Greenland Groundfish	IB - 1F	Oct-Nov	since 1982	Stratified random bottom trawl	Cod, redfish, other finfish	45	N	80	0-400m	Y	Y	N	Y	N	E/- Germany	98/21
Greenland - Japan Groundfish	IA - 1D	Aug	1987-95 1997	Stratified random bottom trawl	Greenland halibut, Roundnose Grenadier	63	N	80	600-1500m	Y	Y	N	Y	N	Greenland Japan	98/25
Greenland shrimp	IA - 1F	Jul-Aug	since 1992	Stratified random bottom trawl	Shrimp	278	N	80	0-600m	Y	Y	N	Y	N	Greenland	98/40

Stock name: Other Finfish in Subarea 1

Name of survey	Location (Div.)	Season month(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of Sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates				Individual weights	Country	SCR Doc. No.
										abundance	bio-mass	ALK	LF			
West Greenland groundfish	1B - 1F	Oct-Nov	since 1982	Stratified random bottom trawl	Cod, redfish Other finfish	45	N	80	0-400m	Y	Y	N	Y	N	EU-Germany	98/21
Greenland/Japan Groundfish	1A - 1D	Aug	1987-95 1997	"	Greenland halibut Roundnose grenadier	63	N	80	400-1500m	Y	Y	N	Y	N	Greenland/Japan	98/25
Greenland shrimp	1A - 1F	Jul-Aug	since 1992	"	Shrimp	278	N	80	0-600m	Y	Y	N	Y	N	Greenland	98/40

Stock name: Cod Divisions 2J+3KL															
Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates			Country	SCR Doc. No.	
										abundance	bio-mass	ALK	LF		
Groundfish	2J3K	Oct, Nov, Dec	1977-97	Stratified-random Bottom trawl	Groundfish	400	Y	100	100-1000 m	Y	Y	Y	Y	Canada	98/46
Groundfish	3L	May-Jun	1971-98	Stratified-random Bottom trawl	Groundfish	160	Y		30-800 ftm	Y	Y	Y	Y	Canada	98/46
Acoustics	3L	Apr	1997	Acoustic	Cod		Y			N	Y	Y	Y	Canada	97/49
Juvenile flatfish	3L	Aug, Sep	1989-94	Stratified-random Bottom trawl	Groundfish		Y		30-150 ftm	Y	Y	Y	N	Canada	95/59
Groundfish	3L	Oct, Nov	1981-97	Stratified-random Bottom trawl	Groundfish	160	Y		30-400 ftm	Y	Y	Y	Y	Canada	98/46
Juvenile cod	2J3KL	Aug, Sep	1992-97	Fixed station	0-group cod	100-150	Y	70	30-400 ftm	Y	N	Y	Y	Canada	98/46
Acoustic	3KL	Oct-Dec	1997	Acoustic	cod/herring		N		<120m	N	Y	Y	Y	Canada	98/46

Stock name: Shrimp - Subarea 0+1

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of scis	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock estimates			Individual weights	Country	SCR Doc. No.	
Greenland bottom trawl	1A offshore Disko Bay inshore	Jul-Sep	since 1988	Stratified-random survey	Northern shrimp groundfish	212	N	95	150-600m	abundance	bio-mass	ALK	LF	Y	Greenland	98/115 98/118

Stock name: Shrimp in Division 3M

Name of survey	Location (Div.)	Season months(s)	Years of survey from, to or since	Type of survey and gears	Target species	No. of sets	24 hr fishing	Area of coverage in relation to stock distribution (%)	Depth range	Research data related to stock size estimates			Indiv-idual weights	Country	SCR Doc. No
										abun-dance	bio-mass	ALK	LF		
EU-bottom trawl	3M	Jul	1988	Stratified random bottom trawl	All	???	N	100	80-730 m	Y	Y	N	Y	EU	96/94 96/98